PSG COLLEGE OF ARTS & SCIENCE (AUTONOMOUS)

MCom(IB) DEGREE EXAMINATION MAY 2024 (Second Semester)

Branch - INTERNATIONAL BUSINESS

BUSINESS STATISTICS AND OPTIMIZATION TECHNIQUES

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks $(10 \times 1 = 10)$

Module	Module Question K							
No.	No.	, Question	Level	CO				
1	1	Which of the following is the most unstable average? a) Mode b) Median c) Geometric mean d) Harmonic mean	K1	COI				
	2	The appropriate measure whenever the extreme items are to be disregarded and when the distribution contains indefinite classes at the end is a) Median b) Mede c) Quartile Deviation d) None of these	K2	COI				
2	3	The coefficient of correlation. a) cannot be positive b) cannot be negative c) can be either positive or negative d) None of these	K1	CO2				
	4	When the two regression lines coincide, then r is a) 0 b) -1 c) 1 d) 0.5	K2	CO2				
3	5	In a t-test for a single mean, what is the null hypothesis typically? a) There is no difference between the means of two independent samples b) The mean of the sample is equal to the population mean c) There is no relationship between the variables being compared d) The mean of the sample is greater than the population mean	K1	CO3				
	6	What type of data is typically analyzed using a chi-square test? a) Continuous data b) Categorical data c) Ordinal data d) Interval data	K2	CO3				
4	7	What is the primary objective of the MODI method in transportation problems? a) To minimize the total transportation cost b) To maximize the total transportation cost c) To identify the shortest path in a network d) To optimize the allocation of resources in a linear programming problem	K1	CO4				
	8	In the North West Corner Rule for transportation problems, which corner of the transportation table is selected first for allocation? a) The top left corner b) The bottom left corner c) The top right corner d) The bottom right corner	K2	CO4				
5	9	Which criterion in decision analysis evaluates decisions based on the potential loss associated with each possible outcome? a) Expected Monetary Value (EMV) b) Expected Opportunity Loss (EOL) c) Net Present Value (NPV) d) Internal Rate of Return (IRR)	K1	COS				
	10	What is the main idea behind the Dominance Principle in decision-making? a) Choose the option with the lowest cost b) Choose the option with the highest reward c) Choose the option that is better in every possible outcome d) Choose the option with the lowest risk	K2	CO5				

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

 $(5 \times 7 = 35)$

Module No.	Question No.	Question	K Level	СО		
1		A calculate mean from the following data.				
	11.(a).	Roll No. 1 2 3 4 5 6 7 8 9 10		ļ		
		11(4)	Marks 40 50 55 78 58 60 73 35 43 48	KI	COI	
		(OR)	-			
	11.b.	Explain Karl Pearson's skewness.				
	12.a.	What are the Properties of the coefficient of correlation?	K2			
2		(OR)		CO2		
	12.b.	Explain the meaning of Regression lines.				
	13.a.	Write a short note on students t distribution.	K1			
3		(OR)		CO3		
	13.b.	Explain the Applications of F-Distribution.				
	14.a.	Solve the following transportation problem.		CO4		
		To Supply				
		1 2 3 4 6				
4		From 4 3 2 0 8 10	K1			
•		Demand 4 6 8 6				
		(OR)				
	14.b.	What do you mean by transportation model?	.			
ŀ	15.a.	Write a short note on decision theory.				
		(OR)				
5						
,	15.b.	A and solve it optimally.	K2	CO5		
		Player B				
		Player A 9 7 5 11	,			
İ	1			1		

SECTION -C (30 Marks) Answer ANY THREE questions

ALL questions carry EQUAL Marks

 $(3 \times 10 = 30)$

Module No.	Question No.	Question	K Level	СО
1	16	Explain the mean, median and mode.	K1	CO1
2	17	Find the coefficient of correlation from the following data. X 78 36 98 25 75 82 90 62 65 39 Y 84 51 91 60 68 62 86 58 53 47	K2	CO2
3	18	Explain the test of independence of Attributes.	K2	CO3
4	19	To Available	K1	CO4
5	20	State the Dominance Principle.	K1	CO5